

**CLAIMS:**

1. A catalyst treating method for treating a catalyst comprising ferrierite, or a zeolite isostructural to ferrierite, said method comprising:

- a) mixing said catalyst in an aqueous solution to form a slurry;
- b) adjusting the pH of said aqueous solution to a desired pH ranging from about 2 to about 7 by adding a reagent that does not have a deleterious effect on said catalyst;
- c) heating said slurry to a predetermined temperature between about 210°F to about 575°F (100 to about 300°C); and
- d) maintaining said slurry at said predetermined temperature for less than about 24 hours,

wherein after the above-described method, said catalyst desorbs sorbed ammonia at a temperature about 248°F(120°C) lower than the same untreated catalyst before the above-described method.

2. The method according to any of the claim 1 wherein said catalyst further comprises about 0.05 to about 2.0wt.%, based on the catalyst, of at least one Group VIII metal.

3. The method according to Claim 2 wherein said Group VIII metal is a Group VIII noble metal.
4. The method according to Claim 3 wherein said Group VIII metal is Pt.
5. The method according to Claim 4 wherein said aqueous solution is water.
6. The method according to Claim 5 wherein the pH of said water is adjusted to about 2 to about 7 through the addition of an acidic or basic material that does not have a deleterious effect on said catalyst.
7. The method according to Claim 6 wherein said basic material is dilute aqueous ammonium hydroxide, and said acidic material is dilute hydrochloric acid.
8. The method according to claim 7 wherein said pH is adjusted to about 3 to about 5.

-19-

9. The method according to claim 8 wherein said catalyst is submerged in said aqueous-solution for less than about 20 hours.

10. The method according to claim 8 wherein said catalyst is submerged in said aqueous-solution for about 12 to about 18 hours.

11. The method according to claim 10 wherein said predetermined temperature is between about 284°F to about 500°F(140 to about 260°C).

12. The method according to claim 10 wherein said predetermined temperature is between about 355°F to about 428°F(180 to about 220°C).

13. The method according to Claim 11 wherein after the above-described method, said catalyst shows removal of sorbed ammonia at a temperature 194°F to about 230°F(90 to about 110°C) lower than the same catalyst before the above-described method.

-20-

14. The method according to Claim 12 wherein after the above-described method, said catalyst shows removal of sorbed ammonia at a temperature 203°F to about 221°F(95 to about 105°C) lower than the same catalyst before the above-described method.

15. The method of claim 14 wherein said catalyst is subjected to the catalysts treating method after the incorporation of said at least one Group VII metal.

16. The process according to Claim 15 wherein said catalyst further comprises at least one binder or matrix material selected from clays, silica, and alumina

17. The process according to claim 16 wherein the product selectivity of the said catalyst improves by more than about 20%.

18. The process according to Claim 15 wherein said catalyst treatment method does not result in dealumination of said ferrierite.

-21-

19. A catalyst treating method for treating a catalyst comprising ferrierite, or a zeolite isostructural to ferrierite, and at least one Group VIII metal, said method comprising:

- a) submerging said catalyst in an aqueous solution to form a slurry;
- b) adjusting the pH of said aqueous solution to about 3 to about 5 by adding an acidic or basic material that does not have a deleterious effect on said catalyst;
- c) heating said slurry to a predetermined temperature between about 284°F to about 500°F(140 to about 260°C); and
- d) maintaining said slurry at said predetermined temperature for less than about 20 hours,

wherein after the above-described method, said catalyst desorbs sorbed ammonia at a temperature about 194°F to about 230°F(90 to about 110°C) lower than the same untreated catalyst and said catalyst treatment method does not result in dealumination of said ferrierite.

20. The method according to any of the claim 19 wherein said Group VIII metal is Pt present in an amount from about 0.05 to about 2.0wt.%, based on the catalyst.

-22-

21. The method according to Claim 20 wherein said basic material is dilute aqueous ammonium hydroxide, and said acidic material is dilute hydrochloric acid.

22. The method according to claim 21 wherein said catalyst is submerged in said aqueous-solution for about 12 to about 18 hours.

23. The method according to claim 22 wherein said predetermined temperature is between about 355°F to about 428°F(180 to about 220°C).

24. The method according to Claim 23 wherein after the above-described method, said catalyst shows removal of sorbed ammonia at a temperature 203°F to about 221°F(95 to about 105°C) lower than the same catalyst before the above-described method.

25. The method of claim 24 wherein said catalyst is subjected to the catalyst treating method after the incorporation of said at least one Group VII metal.

26. The process according to claim 25 wherein the product selectivity of said catalyst improves by more than about 20%.

27. A catalyst treating method for treating a catalyst comprising ferrierite, or a zeolite isostructural to ferrierite, and about 0.05 to about 2.0wt.% Pt, based on the catalyst, said method comprising:

- a) submerging said catalyst in water to form a slurry;
- b) adjusting the pH of said water to about 3 to about 5 by adding an acidic or basic material that does not have a deleterious effect on said catalyst wherein said basic material is dilute aqueous ammonium hydroxide, and said acidic material is dilute hydrochloric acid;
- c) heating said slurry to a predetermined temperature between about 355°F to about 428°F(180 to about 220°C); and
- d) maintaining said slurry at said predetermined temperature for about 18 to about 20 hours,

wherein after the above-described method, said catalyst desorbs sorbed ammonia at a temperature about 203°F to about 221°F(95 to about 105°C) lower than the same untreated catalyst and said catalyst treatment method does not result in dealumination of said ferrierite